1993.9.30

Color Camera Block

EVI-900/901
Instruction

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Nov. 1993

Correction for EVI-900/901 instruction

Sorry to bother you, however, there is some corrections on EVI-900/901 instruction.
Please refer to the following points.

1. Page 11 - Shutter Speed in Manual Adjustment -
The 3rd line from the top of the paragraph.

Locked at the actual speed (1/60 (PAL1/50) to 1/250) → 1/120 → 1/1000→Automatic(1/60 (PAL1/50) to 1/250) circally.

2. Page 12 - Aperture Priority Mode in Program AE, Manual Adjustment -
The end of the 1st line from the top of the paragraph.

The shutter speed is automatically set (between 1/60 (PAL1/50) and 1/2000 (PAL1/1750)) in coming ...

3. Page 12
- Shutter Speed Priority Mode in Program AE, Manual Adjustment -
The end of the 1st line from the top of the paragraph.

You can select the shutter speed 16steps between 1/60 (PAL1/50) and 1/10000.

4. Page 12 - Hold
The1st line from the top of the paragraph.

Slide S003 switch down to the HOLD position.

5. Page 12 - Hold

The last line " Each condition displays on LCD " should be eliminated.

1 General Descriptions

EVI-900(NTSC)/EVI-901(PAL) is a 3CCD Camera Block which has x12 Zoom and Auto Focus lens. This system employs high density three chip precision Charge Coupled Devices (CCD). Each CCD imager has a total about 410K/470K picture element. It realize more than 530 TV lines horizontally.

The camera has many functions like PROGRAM AE system, Auto Tracing/One Push or Preset White Balance, 12steps IRIS control, 16steps Electronic Shutter up to 1/10000sec., 8steps GAIN control individually, and built-in ND filter.

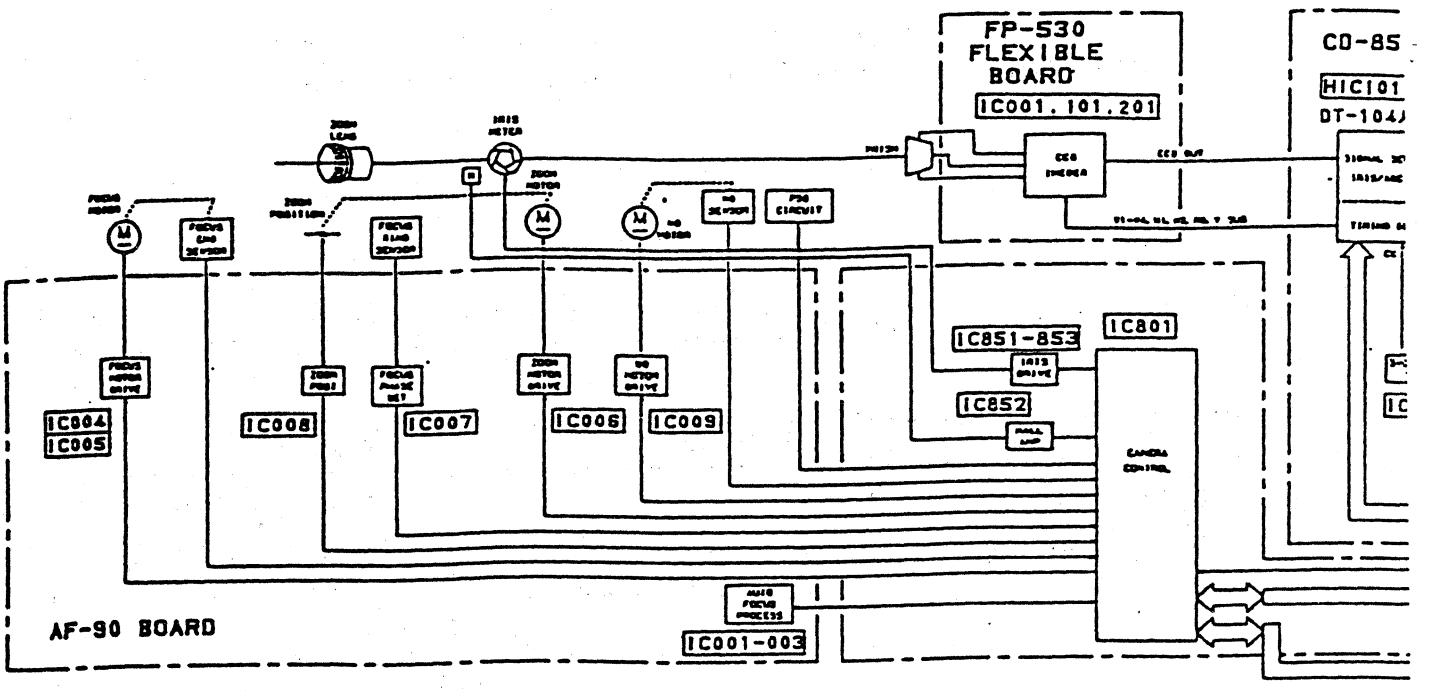
And supplied Camera Control Board EB-3/3P which control each functions.
Video out is composit and Y/C(S-Video). Possible to remote control the lens.

2 Main Specifications

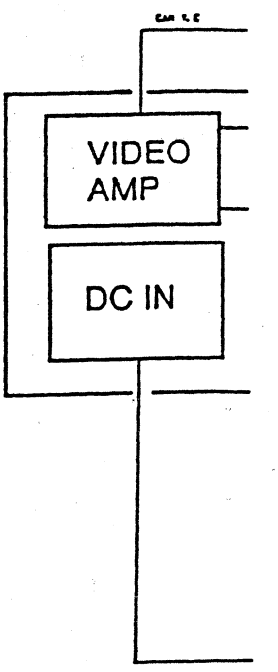
	EVI-900 (NTSC)	EVI-901 (PAL)
Image Sensor	1/3" IT CCDx3CCDs	
Effective Pixels	768(H)x494(V)	752(H)x582(V)
Horizontal Resolution	more than 530TV lines	more than 520TV lines
Lens	x12 motorized Power Zoom f=5.5 to 66mm TTL Auto Focus Inner Focus, Auto Wide Macro Filter 52mm dia.	
Shortest subject Distance	10mm (wide end) : 120cm (tele end)	
Video Out	Y:VS 1.0Vp-p Sync negative C:Burst 0.286Vp-p VBS:1.0Vp-p Composite	Y:VS 1.0Vp-p Sync negative C:Burst 0.300Vp-p VBS:1.0Vp-p Composite
Min. Illumination	8 lux (F1.6)	
White Balance	TTL Auto tracing, One Push AWB, Preset (Indoor, Outdoor)	
Electronic Shutter	16steps (1/60 to 1/10000sec)	16steps (1/50 to 1/10000sec)
Iris	13steps (F1.6 to F11+Close)	
Gain	8steps (-3dB to +18dB)	
S/N Ratio	48dB	
Operating Temperature	0 degreesC to 40 degreesC	
Storage Temperature	-20 degreesC to 60 degreesC	
Power Requirement	DC6 to 9V (6W)	
Dimentions (WxHxD)	82x97x172mm (EVI-900/901) 125x75x23mm (EB-3/3P)	
Weight	580g (include EB-3/3P)	
Remote Control (ZOOM, FOCUS)	Possible to remote control by Digital Serial Signal (For 8mm Video controller RM-95 can be connected)	
Supplied Accessory	Control Board, 13P.6P Flexible Cable 3P-3P Harnes, 2P.4P.5P.6P.7P Harness	

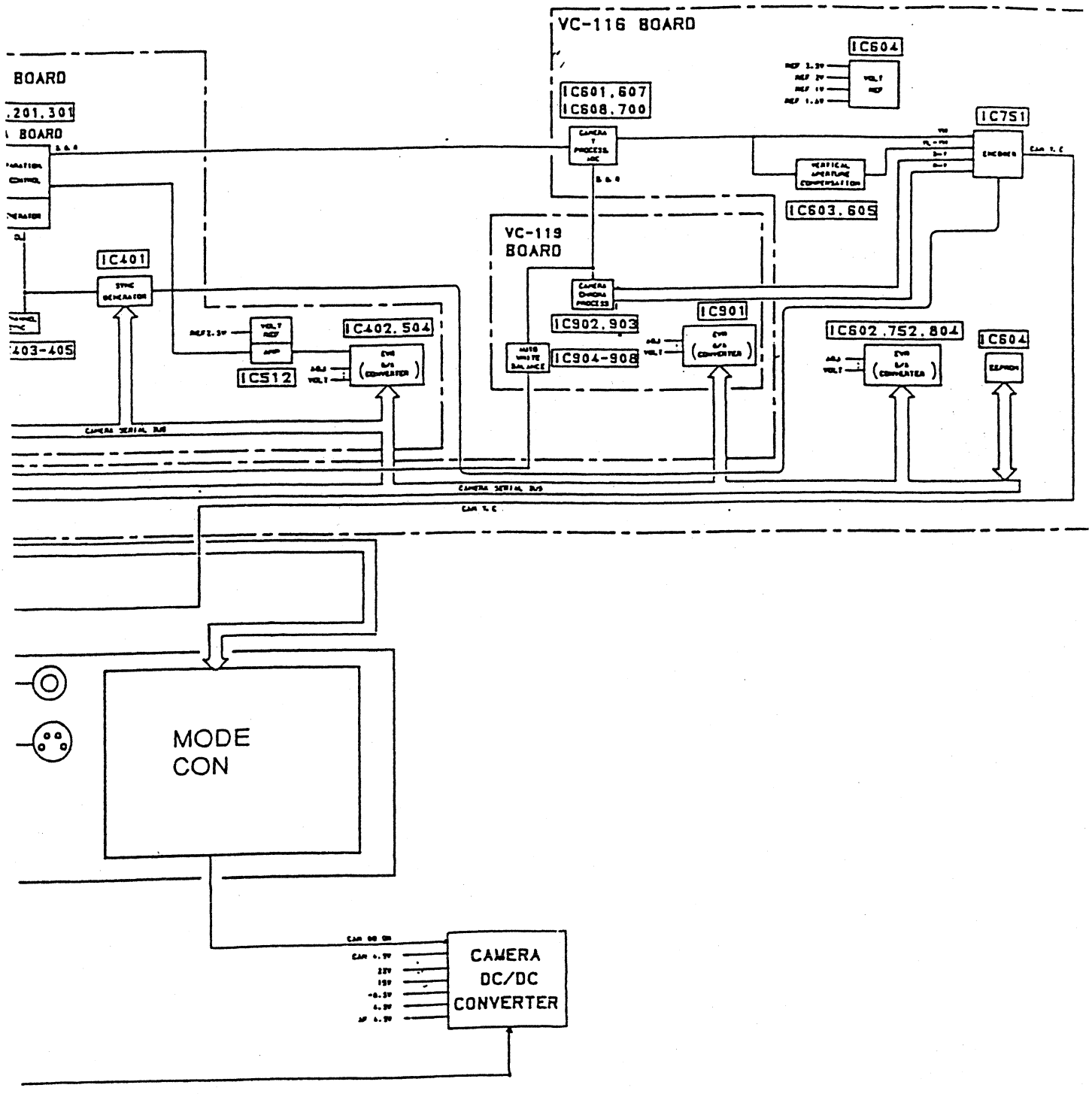
3 Block Diagram

EVI-900/901



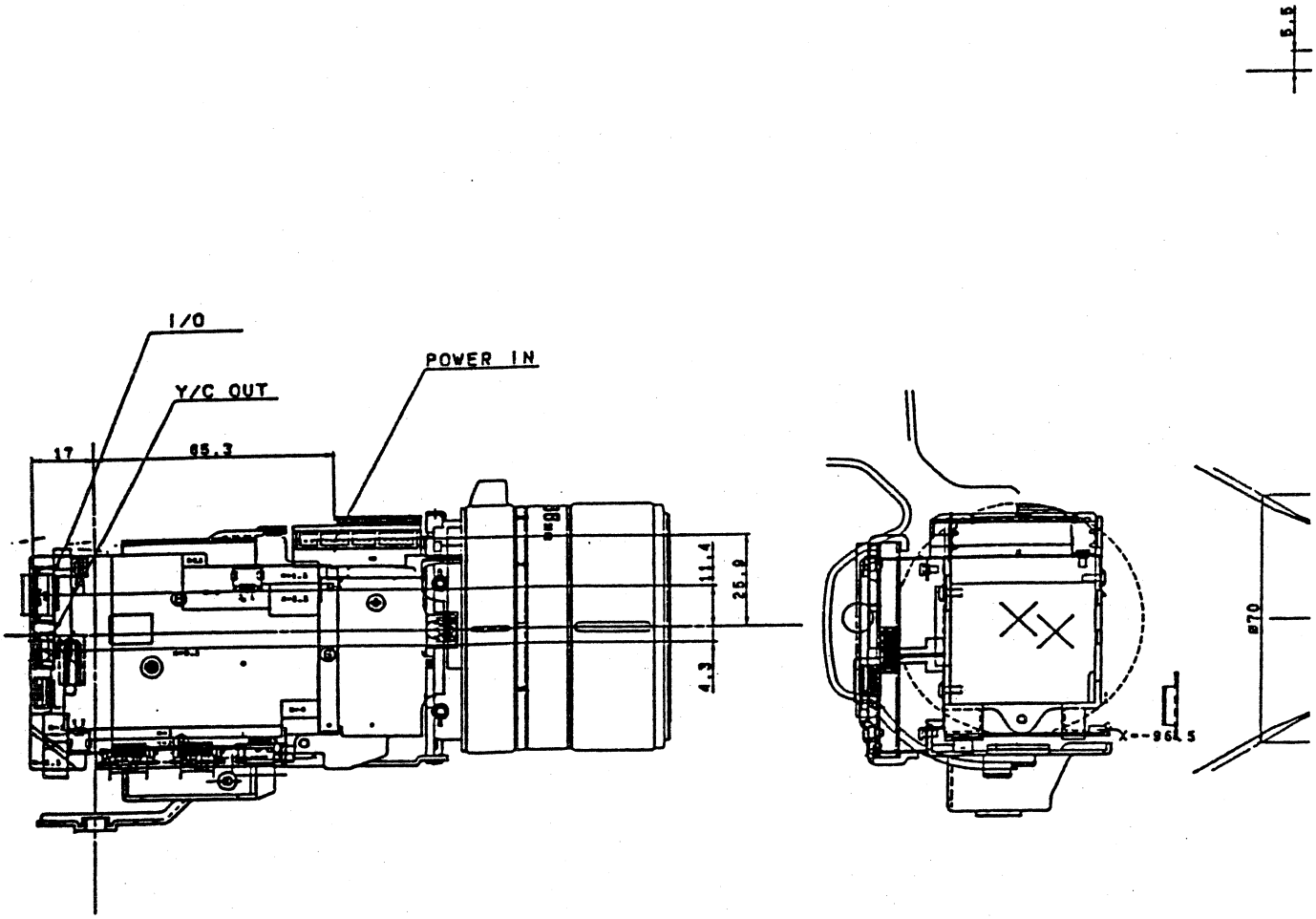
EB-3/3P

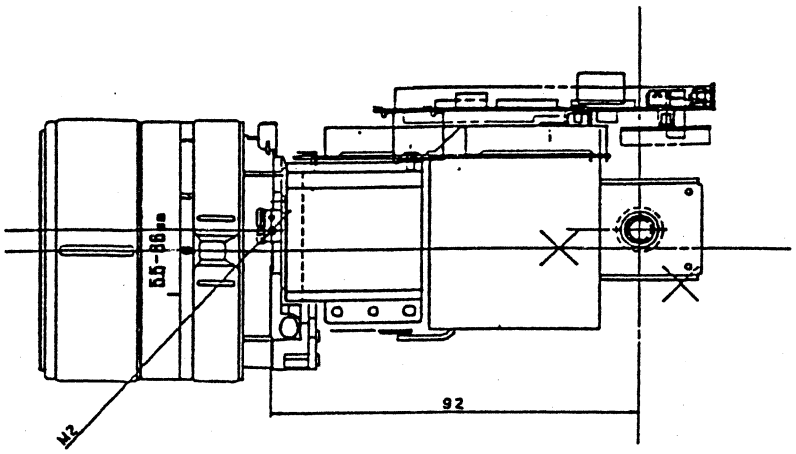



VC-116 BOARD
IC604
IC601, 607
IC608, 700
IC751
IC603, 605
VC-119
BOARD
IC401
IC402, 504
IC512
IC901
IC902, 903
IC904-908
IC602, 752, 804
IC604
MODE
CON
CAMERA
DC/DC
CONVERTER

4 Dimentions

EVI-900/901

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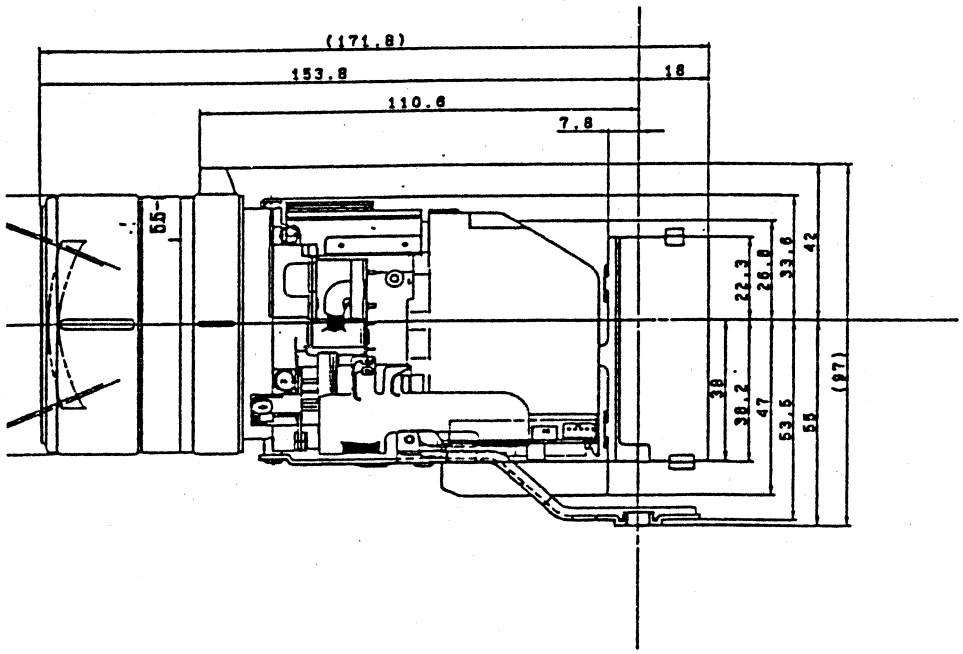
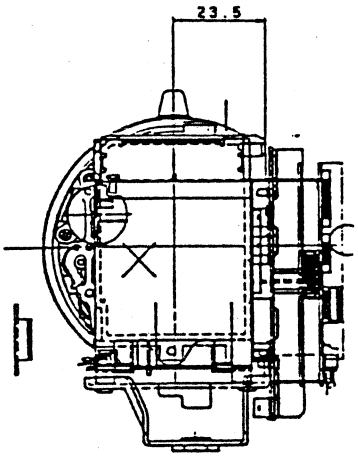
M2
92


(171.8)
153.8
110.6
18
7.8
55-
22.3
28.8
33.6
42
38
38.2
47
53.5
58
(87)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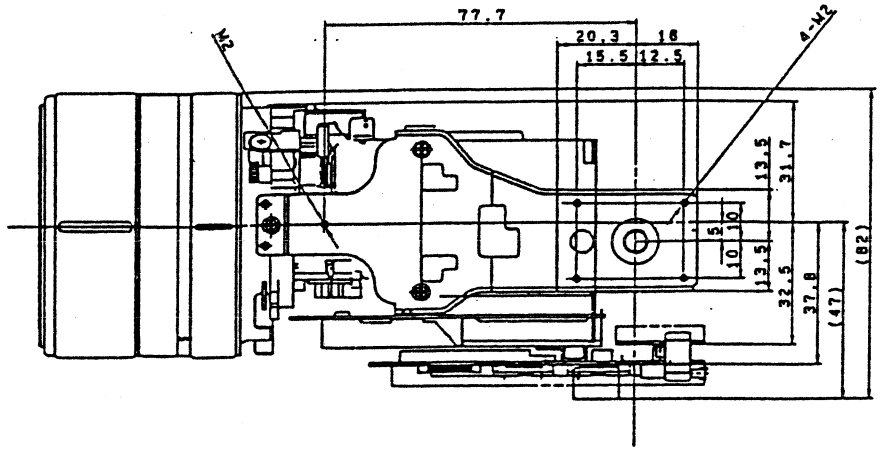
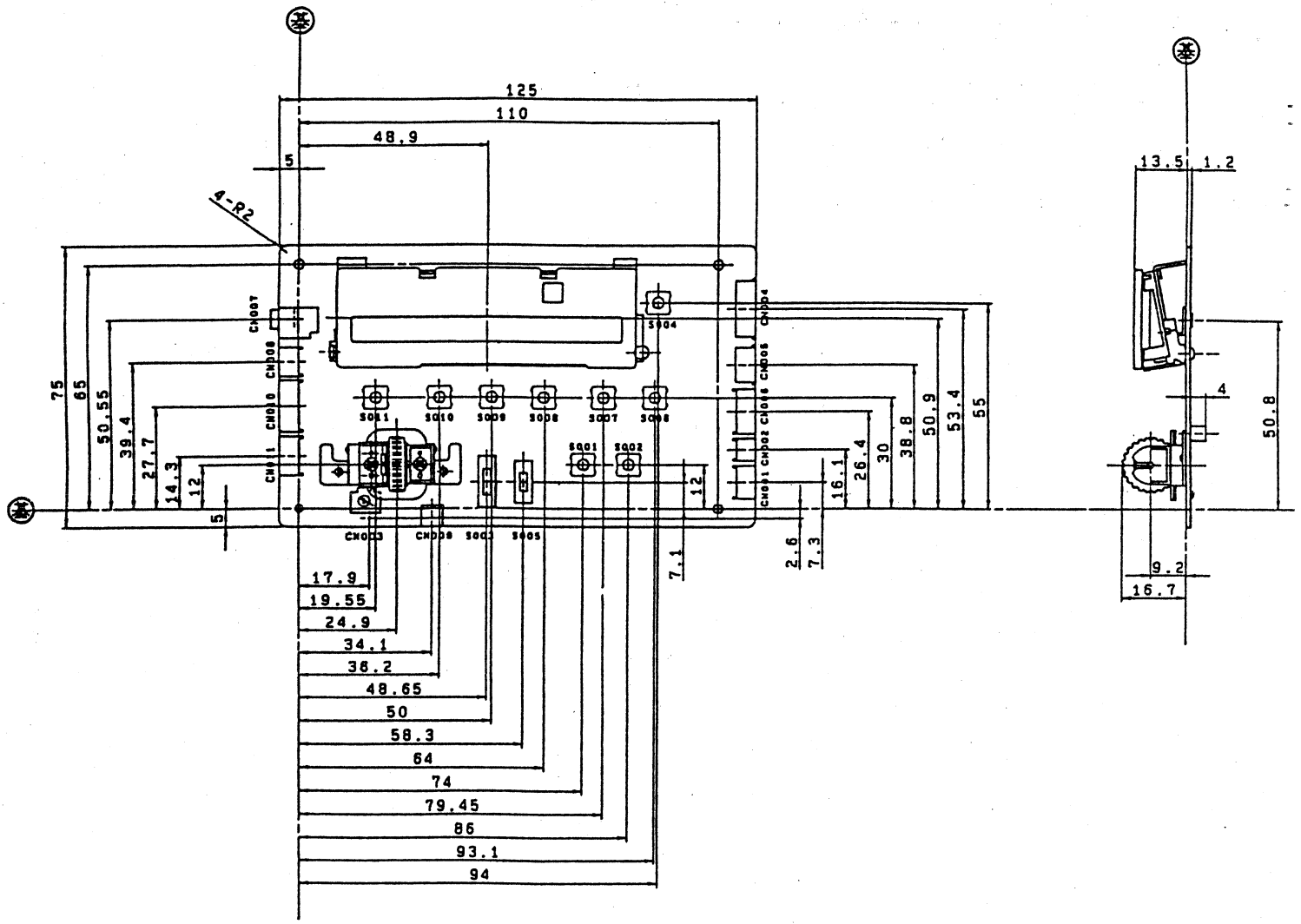

77.7
20.3
18
15.5
12.5
M2
4-M2
13.5
31.7
5
10
10
13.5
32.5
37.8
(47)
(82)


125
110
48.9
5
4-R2
75
65
50.55
39.4
27.7
14.3
12
5
17.9
19.55
24.9
34.1
36.2
48.65
50
58.3
64
74
79.45
86
93.1
94
12
7.1
2.6
7.3
16.1
26.4
30
38.8
50.9
53.4
55
13.5
1.2
4
50.8
9.2
16.7

5 Input/Output Connectors

EVI-900/901

◇CN801:13P — Connect to CN004(EB-3/3P)

◇CN751:6P — Connect to CN005(EB-3/3P)

◇DC/DC Convector (Power in):4P — Connect to CN001(EB-3/3P)

EB-3/3P

◇CN001:4P — Connect to DC/DC Convector(EVI-900/901)

1	CAM UNREG	JST
2	CAM GND	S4B-ZR-SM3A-TF
3	AF UNREG	
4	AF GND	

◇CN002:2P — POWER IN

1	+6~9V IN	JST
2	GND	S2B-ZR-SM3A-TF

◇CN003:3P — CONTROL DIAL

1	SS +5V	JAPAN MOREX
2	CONT DIAL	52207-0390
3	SS GND	

◇CN004:13P — Connect to CN801(EVI-900/901)

1	DT WEN	KYOCERA ELCO
2	ZB OUT	046206013000800
3	SYSTEM SYNC	
4	LI 3V	
5	SS 5V	
6	CAM DD ON	
7	SS GND	
8	$\overline{\text{SYSTEM RESET}}$	
9	FADER CONT	
10	DATA TO MOD	
11	DATA TO CAM	
12	$\overline{\text{SCK}}$	
13	$\overline{\text{CS CAMERA}}$	

◇CN005:6P Connect to CN751(EVI-900/901)

1~3	NC	KYOCERA ELCO
4	CAM C IN	046206006000800
5	GND6 CAM Y IN	

◇CN006:6P VIDEO OUT

1	GND	JST
2	C OUT	S6B-ZR-SM3A-TF
3	GND	
4	Y OUT	
5	GND	
6	VIDEO OUT	

◇CN007: For Remoto Control SMK LGK2512-0160

◇CN008:3P REMOTE CONTROL

1	ECCP DC OUT	JST
2	ECCP SIG	S3B-ZR-SM3A-TF
3	GND	

◇CN009:3P CONTROL DIAL

1	SS +5V	SMK
2	CONT DIAL	GP4703-0410
3	SS GND	

◇CN010:7P PARALLEL REMOTE CONTROL

1	AF $\overline{\text{ON}}$/OFF	JST
2	AUTO LOCK $\overline{\text{ON}}$/OFF	S7B-ZR-SM3A-TF
3	$\overline{\text{ZOOM TELE}}$	
4	$\overline{\text{ZOOM WIDE}}$	
5	$\overline{\text{PROGRAM AE}}$	
6	$\overline{\text{IRIS}}$	
7	$\overline{\text{SHUTTER}}$	

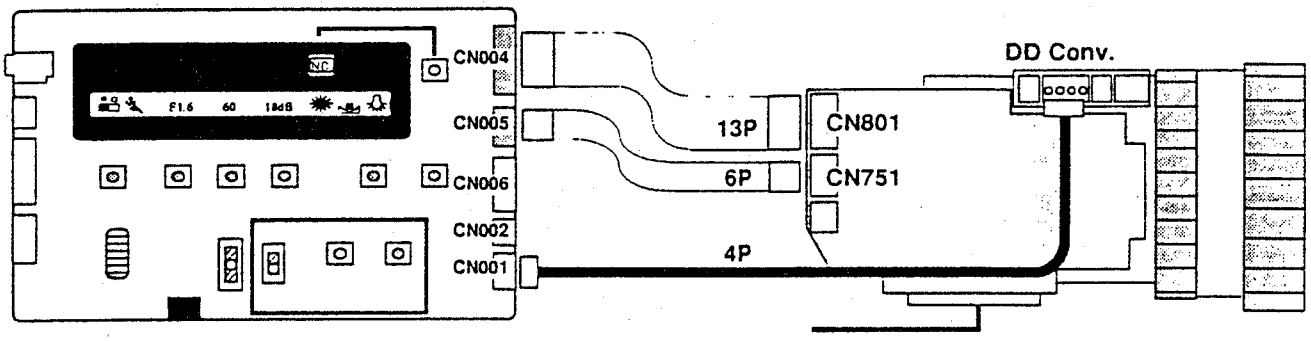
◇CN011:5P PARALLEL REMOTE CONTROL

1	$\overline{\text{GAIN}}$	JST
2	$\overline{\text{WHITE BALANCE}}$	S5B-ZR-SM3A-TF
3	$\overline{\text{ONE PUSH WB TRIGGER}}$	
4	$\overline{\text{ND FILTER}}$	
5	$\overline{\text{SS GND}}$	

◇S003 AUTO/MANUAL/HOLD MODE

◇S005 FOCUS AUTO/MANUAL MODE

Please connect conductor side faces to the board



EB-3/3P

EVI-900/901

CN002	1 RED	DC6~9V IN
	2 BLACK	GND
CN006	1 GRAY	GND
	2 RED	C OUT
	3 ORANGE	GND
	4 YELLOW	Y OUT
	5 WHITE	GND
	6 BLUE	COMPOSIT OUT

			IRIS S010	SHUTTER S009	GAIN S008	WHITE BALANCE S007	AF / MANUAL S005 FOCUS
AUTO	AUTO MANU HOLD S003 top position		Automatic	Automatic Adjustment 1/60~1/250	Automatic	Automatic Adjustment	When you set the AF, you can adjust the focus automatically regardless of the setting the S003 switch.
MANUAL	AUTO MANU HOLD S003 center position		When you press IRIS, the aperture is locked at the actual value.	When you press SHUTTER, the shutter speed is locked at the speed which was selected automatically at that time. Each time you press the button, shutter speed changes. Blocked(1/60~1/250) → 1/100 → 1/1000 → Auto(1/60~1/250)	When you press GAIN, the gain is locked at the actual level.	Each time you press the button, the mode changes. indicator(Auto) → (One-push) → (Outdoor) → (Indoor) → indicator(Auto) ● When you Press the White Balance button and appears in LCD, by pressing ONE PUSH TRIGGER you can lock the white balance and record scenes without being affected by the ambient light. ONE PUSH TRIGGER S006	When you set the MANUAL, you can adjust the focus manually by turning the focus ring directly.
		Dial UP DOWN	You can select from 13 values, from F1.6 to CLOSE.	You can select from 16 speeds, from 1/60 to 1/10000	You can select from 8 gain levels, from -3dB to +18dB.		
PROGRAM AE	AUTO MANU HOLD S003 center position PROGRAM S011	Portrait Mode	Press PROGRAM button so that appears in the LCD.				Use portrait mode to get a portrait effect, that is, the subject in focus and the background out of focus. The aperture and shutter speed are automatically adjusted depending on the size and brightness of the subject
		Sports Mode	Press PROGRAM button so that appears in the LCD.				Use sports mode to shoot a moving subject. The aperture and shutter speed are automatically adjusted to maintain the appropriate exposure depending on the speed of the subject.
		Aperture Priority Mode [A]	Press PROGRAM button so that [A] appears in the LCD. Selected the aperture with the CONTROL dial → the shutter speed automatically set to maintain AE.				Select the desired aperture, and the shutter speed is automatically set (between 1/60 and 1/2000) value to maintain appropriate exposure.
		Shutter Priority Mode [S]	Press PROGRAM button so that [S] appears in the LCD. Selected the shutter speed with the CONTROL dial → the aperture automatically adjust to maintain AF.				Select the desired shutter speed, and the aperture is automatically adjusted to maintain appropriate exposure (between F1.6 and F11).

AUTO MANU HOLD — By setting the S003 switch to HOLD, it is possible to fix each function.

ND FILTER S004 — The internal ND filter is set and reduces the amount of incident light to one-tenth. We recommend

Auto Adjustment

Slide S003 switch up to the AUTO position. You can get Auto Adjustment mode (Auto Focus, Auto Iris, Electronic Shutter (1/60~1/250), AGC, Auto White Balance). Other switch or dial does not work. Adjustment value does not display on LCD.

Manual Adjustment

Slide S003 switch down to the MANU position. You can get Manual Adjustment mode. Manual Adjustment mode, each function's values are displayed on LCD.

IRIS ;

When you press S010, the aperture is locked at the actual value which was selected automatically at that time. You can now select the aperture manually from 12 values using the CONTROL dial: (F1.6, F2, F2.4, F2.8. F3.4, F4, F4.8, F5.6, F6.8, F8, F9.6, F11, Close)

SHUTTER SPEED ;

When you press S009, the shutter speed is locked at the actual value which was selected automatically at that time. Each time you press this button, the shutter speed changes: Locked at the actual speed (1/60~1/125)→1/120→1/1000→Automatic (1/60~1/125), cyclically. You can now select the shutter speed manually from 16 speeds using the CONTROL dial: (1/60 (PAL1/50), 1/90, 1/100, 1/125 (PAL1/120), 1/180, 1/250, 1/350, 1/500, 1/725, 1/1000, 1/1500, 1/2000, 1/3000, 1/4000, 1/6000, 1/10000)

GAIN ;

When you press S008, the gain is locked at the actual levels which was selected automatically at that time. If you adjusted aperture manually prior to adjusting the gain, the gain level is set according to the aperture setting. You can now select the gain manually from 8 levels using the CONTROL dial: (-3dB, 0dB, +3dB, +6dB +9dB +12dB +15dB +18dB)

WHITE BALANCE ;

Each time you press S007, the white balance changes: One-push mode (hold)→Outdoor →Indoor→Auto white balance, cyclically.

ONE PUSH WHITE BALANCE ;

When you press S006, you can get the one-push white balance, while you press S007 and hold the white balance. The setting is locked and maintained even if lighting conditions change.

FOCUS ;

Slide S005 switch up to the AF. You can get Auto Focus whatever mode the S003 switch is in. Slide S005 switch down to MANU and turn the focus ring directly. You can adjust focusing manually.

ZOOM ;

Press S002 for telephoto shots and S003 for wide-angle shots whatever mode the S003 switch is in. And you can also zoom using the zoom lever directly.

ND FILTER ;

You can shoot a bright scene clearly with the internal ND filter. Press S004 for ND filter in or out whatever mode the S003 switch is in. This is a filter that reduces the amount of incident light without affecting the colour. The internal ND filter reduces the amount of incident light to one-tenth. If the "ND" indicator flushes on LCD, press this button.

PROGRAM AE ;

Each time you press the S011, the mode changes: Portrait→Sports→Aperture Priority Shutter Speed Priority→Manual, cyclically.

●Portrait Mode

You can get a portrait effect, that is, the subject in focus and the background out of focus. The aperture and the shutter speed are automatically adjusted to maintain the appropriate exposure depending on the size and brightness of the subject.

●Sports Mode

You can get a subject with high-speed action and view the picture with less shaking. The shutter speed and the aperture are automatically adjusted to maintain the appropriate exposure depending on the speed of the subject.

●Aperture Priority Mode

You can select the aperture to determine the desired depth of field. The shutter speed is automatically set (between 1/50 and 1/1750) in combination with the aperture value to maintain appropriate exposure.

●Shutter Speed Priority Mode

You can select the shutter speed from 16 speeds between 1/50 and 1/10000. The apperture value is automatically adjusted according to the selected shutter speed to maintain appropriate exposure (between F1.6 and F11).

HOLD

Slide S003 switch down to the MANU position. You can lock the mode which was selected by manual adjustment or program AE. Each switches (IRIS, SHUTTER, GAIN, WHITE BALANCE, and PROGRAM) or dial does not work. Each condition displays on LCD.

8 Remote Control

RM-95

You can control zoom and focus if you use Remote Commander RM-95 which connect CN007 on EB-3/3P.

External Switch

You can control each function by using External Switch which connect CN010, CN011 on EB-3/3P. You can get same conditions as pressing the button on EB-3/3P, by connecting each terminal with GND. And when you use external switch, set S003 and S005 (when you use manual focus) switch down to MANU. Relations between CN010, CN011 each terminal and each switch on EB-3/3P is as follows.

◇CN010:7P

		EB-3/3P
1	AF $\overline{\text{ON}}$/OFF	S005
2	AUTO LOCK $\overline{\text{ON}}$/OFF	S003
3	$\overline{\text{ZOOM TELE}}$	S001
4	$\overline{\text{ZOOM WIDE}}$	S002
5	$\overline{\text{PROGRAM AE}}$	S011
6	$\overline{\text{IRIS}}$	S010
7	$\overline{\text{SHUTTER}}$	S009

◇CN011:5P

1	$\overline{\text{GAIN}}$	S008
2	$\overline{\text{WHITE BALANCE}}$	S007
3	$\overline{\text{ONE PUSH TRIGGER}}$	S006
4	$\overline{\text{ND FILTER}}$	S004
5	$\overline{\text{SS GND}}$	

※You can use the Control Dial by removing and extending from EB-3/3P.

9 Power Supply

EVI-900/901 requires 2A of rush current when the power is turned on. Please use the power supply considering 2A of rush current. In case of shortage of current, it will not be turned on though DC6 to 9V is supplied.

10 Note for the installation

Please use M2 screw on tripod attachment and the screw hole behind the lens to fit the housing or chasis.

11 Others

Please be noticed that EVI-900/901 has no RGB out put nor external sync function.